



**Figure #3.16** - Place Soft Foam Compression element on top of spring

16. Position the Primary Load Washer (T1LLM312) on top of the Soft Foam Compression Element, as shown in **Figure 3.17**.



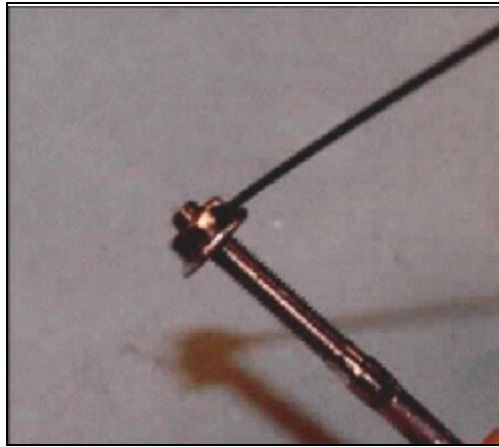
**Figure #3.17** -  
Primary Load Washer

17. Pass the threaded end of the Achilles Cable assembly (T1LLM319) up through the Spring Tube Assembly from the bottom side, as shown in **Figure 3.18**.



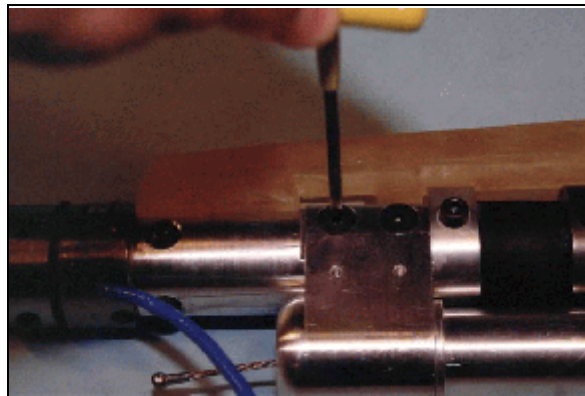
**Figure #3.18** - Achilles Cable Assembly

18. Secure the cable with the Achilles Retaining Nut (T1LLM318) and tighten the #4-40 x 1/8" Nylon Tipped SSS {0.05} in the retaining nut to secure the position of the nut on the cable, as shown in **Figure 3.19**. The adjustment of the Achilles cable will be discussed in Section 12.3.



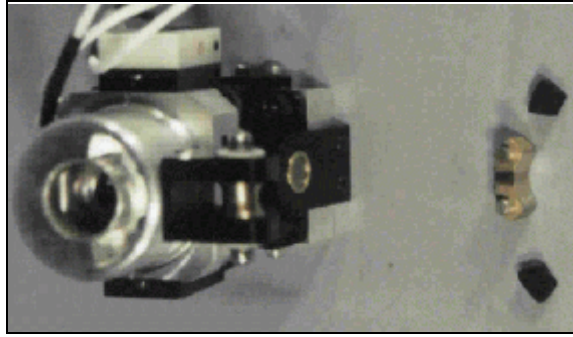
**Figure #3.19** - Tighten retaining nut

19. Attach the Achilles Spring Tube assembly to the rear of the Lower Tibia Tube using four 1/4-28 x 1/2" FHSCS {5/32}, as shown in **Figure 3.20**.



**Figure 3.20** - Attach the Spring Tube to the Lower Tibia Tube

20. The Z-axis rotation of the THOR-LX / HIIr is controlled at the joint between the ankle and lower tibia assemblies. This joint is designed to allow +/- 20 degrees of controlled internal / external rotational motion. The components used to control this motion are shown along with the ankle assembly in **Figure 3.21** - the two rubber z-rotation stops (T1AKM027), and Wedge #1 (T1LLM111).



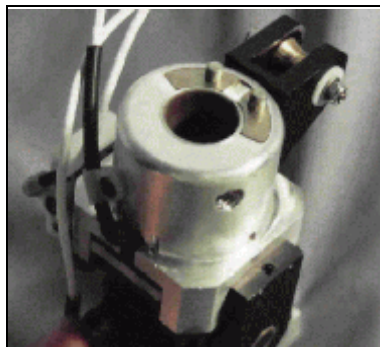
**Figure #3.21** - Z-axis rotation components

21. The Z-rotation stops are installed in the top of the Ankle Top Torque Base (T1AKM011) on either side of the annular groove - as shown in **Figure 3.22**. The Wedge #1 is shown in the photograph for illustration purposes only. This wedge is attached to the bottom of the lower tibia load cell assembly with the two dowel pins.



**Figure #3.22** - Z-rotation Assembly

22. As an option, the Z-rotation axis can be locked for calibration purposes. To lock the axis, remove the rubber z-rotation stops and substitute Wedge #2 (T1LLM112) for Wedge #1, as shown in **Figure #3.23**.



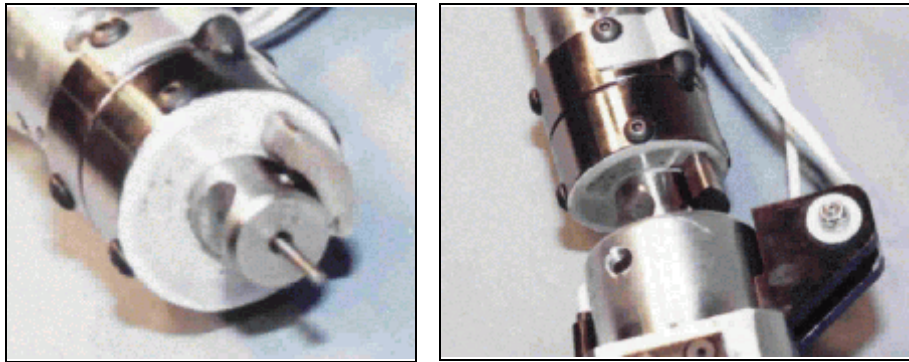
**Figure #3.23** - Locked

23. Check to ensure that the Teflon Spacer (T1LLM015) is attached to the bottom surface of the lower tibia load cell. Secure the desired Wedge onto the bottom of the lower tibia load cell using the dowel pins, as shown in the left photo of **Figure #3.24**. Slide the mounting post of the lower tibia load cell into the counter bored hole in the Top Torque Base (T1AKM011) of the Mechanical Ankle Assembly (T1AKM000). Align the D-shaped hole in the Z-axis potentiometer (located within the Top Torque Base) with the flat on the end of the tibia Rotary Potentiometer Shaft (T1LLM021). Center the z-rotation wedge between the soft stops (if required) and slide the assemblies together as shown in the right photo of **Figure 3.24**.

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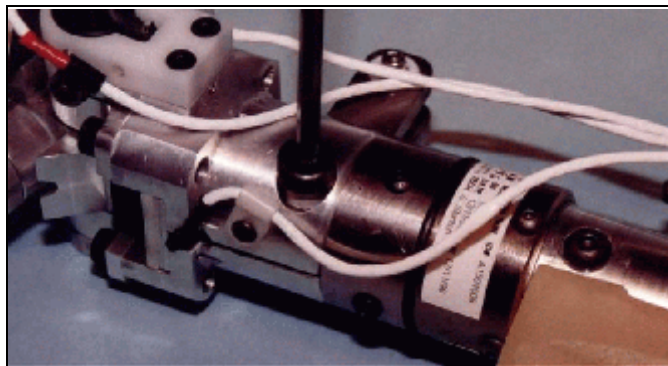
**WARNING: THE D-SHAPED HOLE IN THE POTENTIOMETER MUST BE ALIGNED WITH THE FLAT ON THE POTENTIOMETER SHAFT OR THE POTENTIOMETER WILL BE PERMANENTLY DAMAGED.**

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**Figure #3.24** - Attachment of the Wedge and Teflon Washer to the Base of the Lower Tibia Load Cell / Installation of the ankle components

24. Secure the ankle assembly to the lower leg assembly using a 3/8" x 1" Shoulder Bolt {5/32} which is covered with the delrin Ankle Bolt Sleeve (T1AKM028), as shown in **Figure 3.25**.



**Figure #3.25** - Secure the Lower Tibia to the Ankle